ASBESTOS

APRIL 1951

EHRET
THERMALITE
85%
MAGNESIA
INSULATION

SAVE HEAT WITH · EHRET INSULATIONS

Today, you can save even *more* heat with Ehret Insulation. A product of a new plant, Ehret THERMALITE 85% Magnesia is lighter in weight and improved in insulating value. Molded to exact, finished size, Thermalite is more durable, clean, easy to handle and apply. Designed for temperatures up to 600°F., it is manufactured in sectional form for pipe sizes to 18" diameter. For complete details request Bulletin 9-0.

Ehret Magnesia Manufacturing Co.
VALLEY FORGE, PENNSYLVANIA

"ASBESTOS"

FOUNDED IN JULY 1919 AND PUBLISHED
MONTHLY SINCE THAT DATE

BY SECRETARIAL SERVICE
808 WESTERN SAVING FUND BLDG.
S. E. COR. BROAD & CHESTNUT STS.
PHILADELPHIA, 7, PENNSYLVANIA

Estate of C. J. STOVER, *Proprietor*

A. S. ROSSITER, *Editor* E. E. COX, *Circulation Manager*

Entered As Second Class Matter November 23, 1923, at the Post Office at Philadelphia, Pennsylvania, Under Act of March 3, 1879

Volume 32 APRIL 1951 Number 10

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ASBESTOS is indexed regularly by Engineering Index, Inc.

SUBSCRIPTION PRICE

United States - - - - - - $2.00 Per Year
Canada - $3.00 Per Year Foreign Countries - $3.00 Per Year
Back Copies - .35 Each Single Copies - (Current) .25 Each
(Payable in U. S. Funds)

APPEALS

At the time we write, the Red Cross is conducting their drive for funds; shortly the Salvation Army will start their campaign. Both very worthy of support; both do a wonderful work for humanity. But at the same time and every week of the year appeals for funds are made for this, that and the other charity, until it becomes burdensome. It is impossible to give very much if we give to all; it is indeed impossible to give to all of them.

Then there are the appeals for support of research work on various diseases—tuberculosis, infantile paralysis, heart, cancer, the blind. All these charities figure that if they send out so many thousand letters they will get a certain percentage of return; even tho the individual gifts are small, they mount up to a good many dollars in total.

In fact many of the appeals ask for only a dollar or two; thru the purchase of a dollar's worth of seals perhaps, knowing that it will be harder for people to turn down a request to buy seals than just to give a dollar.

However we were greatly amused recently when a letter arrived asking us to purchase a tiger or a lion for the Philadelphia Zoo, which has just completed what is described as being a very beautiful enclosure in which to house these animals. The cheapest "cat" cost $750 . . although if you felt more generously inclined, they needed four of a certain kind of tiger which ran to $3500 each.

These letters were sent out, we happen to know, to people in a small country village, most of whom would certainly not have the money to purchase such an animal. It would seem that letters of that sort should be sent only to a selected list of financially highly rated families.

At any rate that was one of the appeals we were forced to turn down!

• • • —

Industry today is plagued by a shortage of materials, but its most critical shortage may well turn out to be that of engineers and scientists, according to Harry A. Winne, Vice President of the General Electric Company in charge of engineering policy.

HEAT INSULATION - A Book

"Heat Insulation," is a book which you will want to add to your Library on Asbestos and Insulation.

Written by Gordon B. Wilkes, Professor of Heat Engineering, Massachusetts Institute of Technology, Cambridge, Mass., it contains a vast amount of information, mostly scientific in character, with graphs, curves, and an Appendix giving tables on Coefficients of Thermal Conductivity, Specific Heat and Thermal Diffusivity, Emissivity and Reflectivity of Various Substances, coefficients of Heat Transmittance for Building Walls, and Water-Vapor Permeability of Various Materials.

It is published in New York by John Wiley & Sons, at 440 Fifth Ave., and in London by Chapman & Hall Limited.

The price is $4.00. Anyone may look over our copy in this office and if you wish place your order with us.

• • • —

The American Society of Heating and Ventilating Engineers has issued its 1951 edition of the Heating, Ventilating and Air Conditioning Guide. Completely revised and with several special features incorporated, the new edition is the largest ever issued. It contains 1048 pages of technical text grouped in 50 chapters under the following headings: fundamentals, human reaction, heating and cooling loads, combustion and consumption of fuels, systems and equipment, special systems instruments and codes.

The Guide is priced at $7.50 postpaid. Order from "ASBESTOS", or from the A. S. H. V. E. Society at 51 Madison Ave., New York 10.

• • • —

The Brussels International Fair will be held from April 21st to May 6th. To celebrate the Fair's jubilee, various receptions will be organized, such as the grand inaugural soiree. There will also be consular and international special days, such as British, French, German, Italian, U. S. A., etc. The fountains will play again on the Esplanade and the list cascades on the Centenary Boulevard.

THE AEROFALL MILL

By D. Weston[1]*, M. C. I. M. M.*

(This is the second of two articles on this subject; the first was published in our March 1951 number and gave a description of the mill itself).

The results obtained by the Aerofall Mill are of particular interest to readers of "ASBESTOS" in respect to the milling of asbestos bearing ores. A discussion of some of the characteristics of the mill indicates how these results are obtained.

Grind Characteristics:

The Aerofall Mill shows, generally, a more uniform grind, with less over-size in the coarse range and an appreciably smaller amount in the extreme fines range. Possibly, from an industrial mineral point of view, the most single important result in the combination of comminution factors is the ability of the mill to give, where required, a differential grind. The term "differential grind", in this case, is used to define a state whereby the constituent minerals in a material are obtained in their near maximum natural grain size, that is, with the minimum breaking down of the individual crystals. An excellent illustration of this factor is in the milling of asbestos-bearing ores, where it was possible to obtain an appreciably higher recovery of fibre in the required test fibre range than is now possible with any other known type of equipment.

Grind Control:

The fineness of the grind is controlled by means of a by-pass gate in the discharge line above the classifier. For instance, if a finer grind is required, part of the air that would normally be drawn thru the feed hopper and the mill would be by-passed thru this gate. Similarly, if a coarser grind is required the gate would be partially closed, increasing the air velocity thru the mill.

Moisture:

The majority of industrial minerals are comminuted in the dry state. The requirements of present standard equipment are usually that the moisture content be below 2%, and in many cases, as low as one-half of 1%. The

[1]**President and General Manager of Aerofall Mills Limited.**

Aerofall Mill will tolerate a moisture content of 3½% to 4% without any effect upon either the capacity or grind characteristics. By heating the air intake, the unit has been operated under conditions of as high as 12% moisture. However, where moisture conditions consistently exceed 6%, it is not considered practical to comminute the material by this method unless pre-drying to approximately 4% is economical.

Milling:

The high efficiency differential grinding is illustrated in the detailed milling results, for instance, Asbestos:

From a differential grind point of view, the work on this material has been outstanding. The main objective in the milling of all asbestos ores is to mill the ore in such a manner as to obtain the fibre in as near as possible maximum length as it occurs in the host rock. A secondary objective is to obtain the fibre in as crude a state as possible, that is, with a minimum opening of the fibre bundles.

Results from the Aerofall Mill have shown that both these factors are materially improved upon over that obtainable by current standard equipment. In order to obtain these results, it was necessary to operate the Aerofall Mill using the maximum blow-impact factor, and reducing the abrasion and attrition factors to a minimum.

The first work is in comparison to the present Asbestos Corporation circuit, and on the ore from Asbestos Corporation's Beaver property. The second programme is in comparison to the Canadian Johns-Manville circuit, and is on Johns-Manville's Jeffrey property ore. The third programme was carried out for the Potash Company of America, and is on a primarily short fibre ore in which the current standard milling practice was considered carried beyond economical limits. In this case three-stage crushing was used followed by five stages of hammer mills. Screening and aspiration of the fibre was carried out after each individual stage, with the exception of the primary crushing.

Aerofall Mill as Compared to Asbestos Corporation Circuit[2]

The Asbestos Corporation circuit consisted of primary

[2]By permission of Asbestos Corporation Limited

crushing in a jaw crusher, secondary crushing by Symons Cone, tertiary crushing by Symons Cone, and finally the use of Torrey Cyclones followed by two stages of Jumbos. The Aerofall Mill circuit consisted of the primary and secondary stages followed by the Aerofall Mill. The overal increase in percent by weight and value of fibre recovered by the Aerofall Mill in the plus 16 mesh fibre was 42% and 36.3% respectively.

As previous work had shown that in the minus 16 mesh fibre there would be a minimum increase of 50% recovery in fibre value by the Aerofall Mill as against current standard equipment, no work was carried out on this product.

Comparison — Aerofall Mill vs. Beaver Mill Circuit

	Beaver Mill			Aerofall Mill		
Ore Feed (Discharge 4' Cone Set 2")	66.05 Tons			5.64 Tons		
Fibre Recovered (+20 Mesh)	6,610 Lbs.			801 Lbs.		
	+4M	+10M	−10M	+4M	+10M	−10M
Std. Test of Fibre Recovered	4.2	9.4	2.4	4.0	8.9	3.1
Value of Fibre per Ton Feed			$5.92			$8.07
Increase Value per Ton Feed			$2.15 or 36.3%			

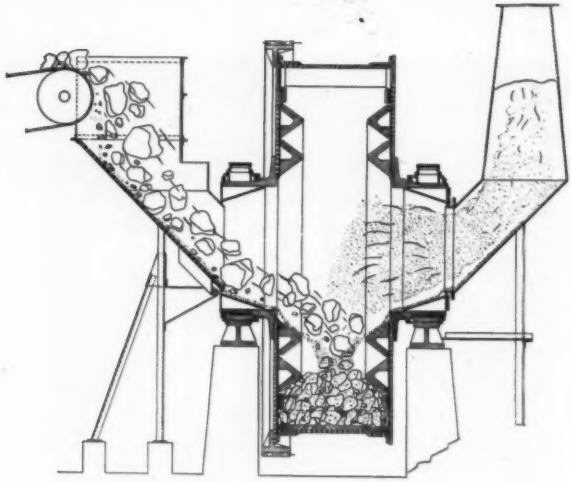
Canadian Johns-Manville[3]

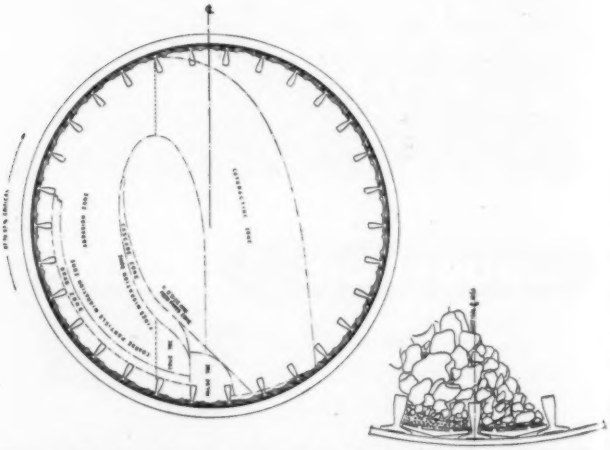
The Canadian Johns-Manville circuit consisted of three-stage crushing followed by two stages of fiberizers, screening and aspirating the fibre after each stage, with the exception of primary crushing. The Aerofall Mill circuit consisted of two-stage crushing followed by the Aerofall Mill. The following tables show the relative percentages in grades of fibre recovered in the various grades and mesh ranges:

Circuit	Indicated Grade and % Fibre Recovery		
	3T	4M	5 - 6 & 7 D
Johns-Manville	0.1%	1.6%	7.6%
Aerofall Mill	2.0%	3.0%	8.0%
	(Correlated for equivalent grades)		

Circuit	Relative Percentage Recoveries			
	+½ Inch	−½+¾ Inch	−¾+10M	10M
Johns-Manville	100.0	100.0	100.0	100.0
Aerofall Mill	475.0	157.0	113.1	200.0

[3]By permission of Canadian Johns-Manville Co.





Upper: Feeding Arrangement and Air Withdrawal of Particles at Requisite Grind.
Lower Left: Fundamental Comminution Action of Mill.
Lower Right: Crushing Action in Base of Mill.

Potash Company of America[4]

This ore was primarily a short fibre bearing material. The standard circuit consisted of primary and secondary crushing, followed by five stages of hammer mills. Screening and fibre aspirating were carried out after each stage, with the exception of the primary crushing. The plus 20 mesh fibre recovered by standard methods was 3.49%. The plus 20 mesh fibre recovered by the Aerofall Mill circuit was 5.41%, or an increase of 55%. The actual value increase by the Aerofall Mill over the standard circuit was approximately 57%.

Slip Fibre Bearing Ores

Work on slip fibre bearing ores has shown an approximate increase in test fibre value recovery of 150% over that obtainable with current standard methods of treatment.

General Analysis:

From a general mine point of view, and with respect to its bearing on natural resources, it is estimated that the use of the Aerofall Mill throughout the asbestos industry would mean a minimum increase of approximately 50 percent in the value of present known ore reserves. It would also make economically available large tonnages of material which were heretofore considered uneconomical. Moreover, because the over-all cost of the basic raw material would be rendered relatively cheaper than heretofore, new applications of asbestos and new industries based on them would be encouraged.

[4]By permission of Potash Co. of America.

The information in this article was taken from a paper by D. Weston, General Manager of Aerofall Mills Limited, 73 King Street West, Toronto 1, Canada, presented to the Annual Meeting of the Canadian Institute of Mining and Metallurgy, Industrial Minerals Division, in April 1950. This article has been read and approved by Mr. Weston.

. . . —

When you have both feet on the ground, you don't have far to fall.

. . . —

What you are depends on what you think, but that does not mean all men are what they think they are.

A. S. T. M. ITEMS

1. An indication of the widespread interest in thermal insulating materials and methods of evaluating their properties was evident from the excellent attendance at the 1951 Spring Meeting of the American Society for Testing Materials in Cincinnati which featured a five-paper symposium. This was sponsored by the ASTM Technical Committee C-16 on Thermal Insulating Materials, Ray Thomas, Staff Engineer, Union Carbide and Carbon Corp., past chairman of the committee, being responsible for developing the program. C. B. Bradley, leading authority in this field and a long time member of the committee, representing Johns-Manville Corp., presided at the session which was held on March 7th, in Cincinnati.

The Committee outlined an extensive research project to study the effect of moisture on thermal conductivity—this has long been of concern to the users and producers of thermal insulating materials.

Several new test methods were recommended for letter ballot approval, including one for determining density of preformed block insulation, density of preformed pipe insulation, and blanket pipe insulation. In addition, a new specification for molded type mineral wool pipe insulation for elevated temperature and a tentative definition of the term "structural insulation board" were recommended.

The Committee selected Skytop, Pa., for its 1951 Fall Meeting, to be held in October.

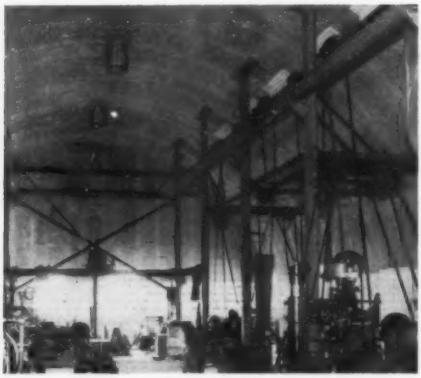
2. At the meeting of Committee C-17 on Asbestos-Cement Products during A. S. T. M. Committee Week it was announced that statements on the significance of tests and definitions pertaining to the four tentatives now published under A. S. T. M. designation have been completed. These statements and definitions interpret more clearly such terms as dimensions, flexural strength, deflection and water absorption, pertaining to asbestos-cement flat and corrugated sheets, roofing shingles and siding shingles and clapboards. Further revisions contemplated in the specifications include a revision of the minimum value of breaking loads and deflection, the addition of ¼ inch thickness board and raising the maximum permissible water absorption to 25 per cent in the tentative specification for flat sheets.

THE SHOP AT BEAVER MINE

Has Some Unique Features

Not so long ago there was completed at the Beaver Mine of Asbestos Corporation Limited. Thetford Mines, Que., Canada, a new mine shop. This was somewhat unique in construction as it was of the Quonset Hut Type and houses the machine, blacksmith, tinsmith and carpenter shops. The H-Type design of Quonset Hut was chosen as being the most suitable for providing separate accommodation for the various departments and by using a standard 40′ width thruout ample space was obtained.

Curved corrugated metal sheets form the exterior covering. Stran-Steel circular ribs were used which like light channels, are fabricated back to back and so spaced



The interior lining of the machine shop is flat asbestos cement board resulting in a smooth inner surface as will be seen.

and crimped as to allow nails being driven between the steel components. These arched ribs are spaced on 4′ centers and support the purlins to which the corrugated asbestos-cement sheets are placed and secured by nails, the heads of which are sealed with lead washers.

This is standard type of Quonset Stran-steel construction and does not represent anything new. But the interior lining and insulation had to be selected to give a a well insulated building. The first step was placing a 3″ thick blanket of fiberglas insulation against the inside of the corrugated metal sheets. This was held in place by nailing strips of wood 3″ wide by 1″ thick running horizontally at 12″ spacing and at the same time similar strips of wood were nailed directly onto the inside faces of the steel ribs.

Over this insulation vapor paper was placed and on top of this ⅛″ flat asbestos cement board was nailed to the wooden strips. The result was a smooth, clean inner surface giving a neat appearance as well as a well insulated building.

BUILDING

February construction contract awards were $1,140,527,000 or 9 per cent higher than January and 46 per cent more than February 1950 in the 37 states east of the Rockies according to F. W. Dodge Corporation. The total for the first two months of 1951 was $2,183,775,000 or 45 per cent more than the comparable figure for 1950 according to Dodge.

Non-residential awards of $431,166,000 in February were 6 per cent below January but were 62 per cent ahead of February a year ago. Residential contracts at $531,146,000 were 26 per cent above January and 47 per cent higher than February 1950. Public and private works and utilities totaled $178,215,000 in February or 10 per cent more than January and 17 per cent higher than February last year.

With increases in all categories for the first two months of 1951, percentages of gain in the individual classifications were as follows: Non-residential 78; residential 35; public and private works and utilities 11.

CANADA'S ASBESTOS GOODS - 1949

The Asbestos Products Industry, 1949, a six page folder issued recently by the Dominion Bureau of Statistics at Ottawa, gives various statistics concerning Canada's asbestos manufacturing industry. Briefly a few figures are of especial interest; production by the manufacturers of asbestos goods in Canada in 1949 was valued at $10,343,009, an increase of 28% over the 1948 figure of $8,079, 823.

Divided as to products these figures will be of more than usual interest:

		1949		1948	
	Unit	Quantity	Cost at Works	Quantity	Cost at Works
Asb. Brake Linings					
Molded	Ft.	4,062,761	$1,110,921	3,799,250	$1,231,144
Other	Ft.	808,841	303,373	938,662	390,717
Asbestos Pipe and Boiler Coverings		.....	1,127,273	.....	880,529
Asbestos Clutch Facings	No.	852,470	457,785	936,225	420,311
Asbestos Gaskets	Lb.	34,354	31,863	40,790	36,765
Asbestos Packings (All Kinds)	—	.....	260,190	.....	259,085
All Other Products[1]	—	.....	7,051,604	.....	4,861,272
			$10,343,009		$8,079,823

[1]Includes asbestos dryer felt, hydraulic brake hose, asbestos shingles, asbestos yarn, asbestos millboard, asbestos-cement wallboard, asbestos cloth, asbestos-cement pipe, etc. Figures cannot be shown separately as in most cases there were only one or two producers in the Industry.

Likewise the following table:

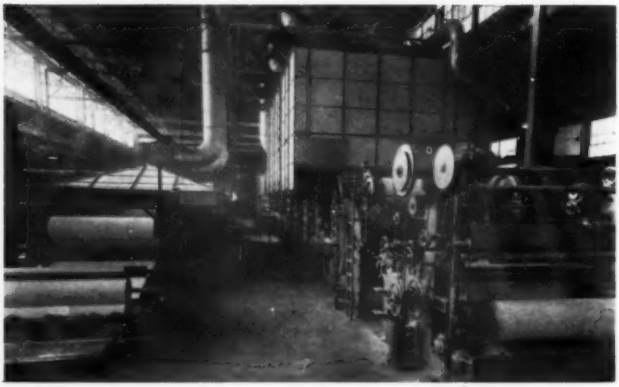
	1949	1948
Number of Plants	14	15
Average Number Employees	1,533	1,020
Salaries and Wages	$3,627,864	$2,213,670
Cost of Fuel and Elec. at Works	461,473	363,756
Cost of Materials at Works	4,794,030	4,271,225
Gr. Selling Value of Products	10,343,009	8,079,823

Of the 14 factories reporting in 1949, 6 were located

in Quebec, 5 in Ontario, 1 in Nova Scotia and 2 in British Columbia.

Other tables, concerning imports, exports, materials used in the Asbestos Products Industry, etc., are included in the pamphlet which may be obtained from the Industry and Merchandising Division at Ottawa for 25c. Ask for "The Asbestos Products Industry — 1949."

NORRISTOWN MAGNESIA & ASBESTOS CO. Installs New Paper Machine



The machine shown above was recently installed by the Norristown Magnesia & Asbestos Company in their plant at Norristown, and is said to be the last word in machines for the making of asbestos paper.

The firm found it necessary to expand their production of asbestos paper, and some idea of the size and productive capacity of the new machine can be obtained from the picture.

The machine was made by Moore & White Company of Philadelphia.

. . . —

You can't have a stable business without using horse sense.

MARKET CONDITIONS

GENERAL BUSINESS

The freeze on prices has to some extent paralyzed business because it placed retail price ceilings too low relative to replacement costs. Along with this buyers all along the line have been anticipating requirements, increasing commitments and enlarging inventories. So says the National City Bank letter for March.

The international situation however may change over night—who knows! So caution is being exercised.

ASBESTOS — RAW MATERIAL

Demand is greater than supply in asbestos crudes and fibres, with urgent requests for more material coming from all parts of the world. It is believed that inventories on hand by manufacturers would average about a month's supply. Total war might upset the market for a while; otherwise no material change is expected.

ASBESTOS — MANUFACTURED GOODS

Asbestos Textiles. Demand for all types of asbestos textiles continues with no relief in sight. This will be the case for some time; the outlook hinges on continued delivery of fibre and the labor problems which confront the Industry.

Brake Lining. The Brake Lining business is now running at the highest level in history—the only limitations are procurement—rubber, brass and zinc are all allocated. It is feared that the mistakes of World War II are being repeated—too much Government buying and too much civilian "fear" buying.

Asbestos Paper. Requirements continue to be heavy and doubtless short supply will continue thruout 1951. *Saturated Paper* shows a considerable backlog of orders and demand in this commodity will take full production for the next six months.

Asbestos Millboard. The growing demand should continue thru 1951, but factory capacity should be sufficient to handle it.

Insulation. High Pressure. Ability to supply requirements of the large construction projects resulting from the mobilization program is becoming increasingly important. Many orders state "hold until release." Business will be good thruout 1951, altho shortage of pipe is affecting commercial work.

Insulation. Low Pressure. Altho this is the season of the year when there is a slackening in this market, one large manufacturer reports they are experiencing unusual demand, no doubt influenced by the mobilization program. Good business is expected thruout 1951.

Asbestos-Cement Products. The market for all asbestos-cement materials is *strong.*

The market in shingles, both roofing and siding remains constant and seasonal, with shipments greater than the same period last year.

In the corrugated and flat materials, demand exceeds production, with considerable backlog of orders and it is fairly certain that requirements will take full production for the next six months.

The market in pipes is very active; increasing government demand and no letup in that municipal and industrial sources. Orders for flue pipe and house connection sewer pipe continue heavy despite reduction in housing construction. Electrical conduit is also active with increasing requirements for military construction.

The above comments have been made by various informed executives in the Industry. All comments are welcome.

AUTOMOBILE SALES

	February 1951
Passenger Cars	505,865
Motor Trucks	111,935
Motor Coaches	521
	618,321

In February 1950 a total of 475,465 cars were sold.

In the two months of 1951, January and February, the total was 1,225,154.

These figures were supplied by the Automobile Manufacturers Association, Detroit, Mich.

Africa (S. Rhodesia)

(Published by Rhodesia Chamber of Mines)

Tons — 2000 lbs.

Production December 1950	5,336.63 tons
Valued at	£337,174
Total Production for Year 1950	71,526.82 tons
Compared with Production for 1949	79,638.19 tons

Africa (Swaziland)

Production January 1951	2,750 tons (2000 lbs.)
Production February 1951	2,750 tons (2000 lbs.)

Canada

(Department of Mines, Province of Quebec)

Tons—2000 lbs.

Production January 1951	72,171 tons
Compared with January 1950	57,173 tons

Report from Dominion Bureau of Statistics - Canada

Total production for Canada for year 1950	874,239 tons
Total production for Quebec for year 1950	863,881 tons

Dominion Production for January 1951 is 74,125 tons, a difference of 1,954 from the Quebec figure.

The difference (10,358 tons) probably was produced in Ontario or at least most of it.

The production for the year 1949 is given as 574,906, for both Quebec and the Dominion.

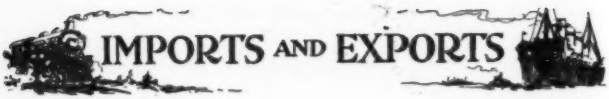
Union of South Africa

(Quarterly Information Report — Dept. of Mines)

Tons — 2000 lbs.

3rd Quarter (July, August, September 1950)

	Production	Local Sales		Exports	
	Tons	Tons	Value	Tons	Value
Amosite	11,397	1,001	£18,899	9,369	£333,750
Anthophyllite	.....	..	....	53	1,189
Chrysotile	3,260	229	6,456	2,538	193,871
Cape Blue	4,366	254	11,757	3,252	222,945
Transvaal	3,824	85	3,482	4,010	247,360
	22,847	1,569	£40,594	19,222	£909,115



Imports into U. S. A.
(Figures by Bureau of Census)

	December 1950 Tons (2240 lbs.)
From Canada	56,600
S. Rhodesia	937
Union of S. Africa	685
Mozambique	138
U. S. S. R.	356
Australia	89
Portugal	27
Italy	1
	58,833
Valued at	*$4,524,279*
By Grades:	
Crude No. 1, Chrysotile, Canada	32
Crude No. 1, Chrysotile, S. Rhodesia	139
Crude No. 2, Chrysotile, Canada	22
Crude No. 2, Chrysotile, S. Rhodesia	138
Crude, Other, Chrysotile, Canada	701
Crude, Other, Union of S. Africa	136
Crude, Other, S. Rhodesia	660
Crude, Other, U. S. S. R.	356
Crude, Other, Portugal	27
Crude, Blue, Union of S. Africa	416
Crude, Blue, Australia	89
Crude, Amosite, Union of S. Africa	133
Crude, Amosite, Mozambique	138
Textile Fibres, Chrysotile, Canada	1,377
Textile Fibres, Chrysotile, Italy	1
Shingle Fibres, Chrysotile, Canada	6,540
Paper Fibres, Chrysotile, Canada	5,669
Other Fibres, Chrysotile, Canada	42,259
	58,833

Manufactured Asbestos Goods:

	December 1950 Quantity (Lbs.)	Value
Asbestos Yarn		
United Kingdom	17,044	$13,646
Asbestos Packing — Not Fabric		
United Kingdom	1,025	461

(Continued on page 30)

(Imports Manufactured Asbestos Goods Continued)

	December 1950 Quantity (Lbs.)	Value
Asbestos Woven Fabrics — Other		
United Kingdom	44	1
Asbestos Brake Lng. (Mld.)		
Canada	6,000	1,13
Mexico	9,368	2,94
Asbestos-Cement Products (Not Impreg)		
Canada	648,512	24,23
Denmark	8,377	14
Italy	462,339	16,44
Asbestos-Cement Products (Impreg.)		
Canada	38,453	4,19
Asbestos Manufactures — Other		
Canada		157
	1,191,662	$63,37

Exports from U. S. A.

(Figures by Bureau of Census)

Unmanufactured Asbestos:

	December 1950 Tons (2240 lbs.)	Value
To United Kingdom		
South America	98	$26,676
Central America and Mexico	65	14,670
Europe	459	118,750
Other Countries	183	37,146
	805	$197,242

Manufactured Asbestos Goods:

		December 1950 Quantity	Value
Asbestos Pipe Covg. & Cement	Lbs.	208,911	12,295
Asbestos Textiles and Yarn	Lbs.	59,244	52,199
Asbestos Packing	Lbs.	185,082	148,355
Asbestos Brake Lng. (Mld.&S.Mld).	Lbs.	433,941	334,535
Asbestos Brake Lng. (Woven)	Lin. Ft.	63,911	38,956
Asbestos Clutch Facings	No.	102,054	54,619
Asbestos Brake Blocks	Lbs.	76,639	65,424
Asbestos Construction Materials	Lbs.	2,348,751	163,373
Asbestos Manufactures — Other			25,711
			$895,467

Exports From Canada

(Published by Dominion Bureau of Statistics)

Unmanufactured Asbestos

	Year 1950 Tons (2000 lbs.)	Value	December 1950 Tons (2000 lbs.)	Value
Crude				
United States	555	$ 330,568	77	$ 45,488
United Kingdom	25	28,750	...	...
South America	...	...	...	...
Central America & Mexico	...	...	...	...
European Countries	177	118,188	18	11,035
Other Countries	88	66,139	...	...
	845	$ 543,645	95	$ 56,523
Milled				
United States	180,854	$23,502,603	16,434	2,191,323
United Kingdom	29,887	3,856,543	2,209	291,978
South America	15,127	2,343,700	1,217	180,779
Central America & Mexico	5,336	736,229	375	50,125
European Countries	38,670	6,026,482	3,901	648,250
Other Countries	19,924	2,648,094	2,408	288,305
	289,798	39,113,651	26,544	3,650,760
Shorts				
United States	485,597	20,351,920	42,989	1,853,273
United Kingdom	22,483	876,075	982	33,575
South America	2,974	185,224	270	16,887
Central America & Mexico	580	34,426		
European Countries	23,795	1,393,710	2,210	117,461
Other Countries	3,907	252,853	401	25,436
	539,336	$23,094,208	46,852	2,046,632
Grand Total—Unmanufactured Asbestos	829,979	$62,751,504	73,491	$5,753,915
Manufactured Asbestos Goods:				
Brake Lining		$ 346,023		$ 32,097
Packing		17,479		39
Other Materials		359,891		29,831
		$723,393		$ 61,967

Imports of Asbestos by United Kingdom

Raw Material

	December 1950[1] Tons (2240 lbs.)	Year 1950 Tons (2240 lbs.)
From Union of S. Africa	1,393	15,678
Southern Rhodesia	1,920	36,359
Bechuanaland Basutoland and Swaziland	894	15,456
Canada	2,982	36,506
Other Commonwealth Countries and the Irish Republic	.....	3,374
Foreign Countries	273	2,634
	7,462	110,007

Of the December figures 4,352 tons is Chrysotile; of the total for the year 72,970 tons is Chrysotile.

[1]This figure was delayed in reaching us and therefore delayed the yearly total figures.

Raw Material

	February[2] 1951 Tons (2240 lbs.)
From Union of S. Africa	1,809
Southern Rhodesia	1,637
Bechuanaland, Basutoland and Swaziland	1,086
Canada	3,108
Other Commonwealth Countries and the Irish Republic	.....
Foreign Countries	1
	7,641

Of this 7,641 tons, 4,734 were Chrysotile, and 2,907 other varieties. These figures were supplied by the Mining Journal Limited of London.

[2]The January figures are on page 36 of our March number.

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Some people are like cats — they lick themselves with their own tongues.

NEWS OF THE INDUSTRY

BIRTHDAYS

P. O. Baker, District Manager, Asbestos Textile & Packin Division, Raybestos-Manhattan, Inc., Providence, R. I April 18.

Lorne Bain, President, Atlas Asbestos Company Ltd., Montreal P. Q., Canada, April 1.

Alvan D. Simpson, President, Asbestos Erectors, Inc., Boun Brook, N. J., April 19.

George A. MacLellan, Managing Director, George MacLellan & Co., Glasgow, Scotland, April 19.

Guy H. Montmartin, President, Alpine Mining Corporation, New York City, N. Y., April 21.

H. J. Dowd, First Vice President, Smith Asbestos Products, Inc Millington, N. J., April 22.

J. Carroll Johnston, President & Treasurer, Atlas Asbestos Co North Wales, Pa., April 28.

Merlin W. Simon, Secretary, Sprinkmann Sons Corp., Milwaukee Wis., April 30.

Donald H. Spicer, President, World Bestos Corp., New Castle Ind., April 30.

Richard H. Jaffer, President, York Insulation Co., Inc., Hillside N. J., May 1st.

R. G. Bennett, Roofing Manager, A. B. Bennett Co., Minneapolis Minn., May 4.

S. E. Josi, Director, Johns-Manville Co., Ltd., London, England May 3.

George S. Fabel, President, Southern Asbestos Co., Charlotte N. C., May 7.

Robert B. Davis, General Manager, Raybestos Division, Raybestos-Manhattan, Inc., Bridgeport, Conn., May 8.

C. G. Dandrow, Vice President, Johns-Manville Sales Corp., New York City, May 12.

L. M. Cassidy, Chairman of the Board, Johns-Manville Corp., New York City, May 13.

L. T. Bennett, Vice President, A. H. Bennett Co., Minneapolis Minn., May 14.

A. M. Ehret, Sr., Chairman, Ehret Magnesia Mfg. Co., Valley Forge, Pa., May 15.

Sumner Simpson, Chairman, Raybestos-Manhattan, Inc., Bridgeport, Conn., May 17.

To all these gentlemen we extend congratulations and good wishes on the occasion of their birthdays.

JOHNS-MANVILLE—Personnel Changes

Kenneth W. Huffine has been appointed Vice President for Production, and *William R. Wilkinson*, Vice President for Sales of Johns-Manville.

Mr. Huffine vacates the post of Director of Engineering to assume his new office as a Senior Vice President, he succeeds A. R. Fisher, who was appointed President on March 2, 195 . Mr. Huffine joined J-M 26 years ago. He was successively man-

Kenneth W. Huffine

Left

Wm. R. Wilkinson

Right

ger of the plants at Alexandria, Ind., and Waukegan, Ill. He was born at Kirklin, Ind., near Indianapolis, and received his degree of Bachelor of Science in Mechanical Engineering at Purdue University in 1920.

Mr. Wilkinson advances from the post of general Merchandise Manager of the Building Products Division, he succeeds L. M. Cassidy, recently elected Chairman of the Board and Chief Executive Officer. He joined J-M in 1925 as sales representative in the New Orleans district. After holding several sales positions in the South, he was successively Assistant District Manager at Milwaukee, Wis., and Manager of the Building Products office at Philadelphia. Mr. Wilkinson studied law at St. Louis University. He has been active in building industry affairs and in 1949-50 served as President of the National Mineral Wool Association.

E. K. Clark has been appointed Vice President of Johns-Manville Sales Corporation and Merchandise Manager of the company's Building Products Division. Mr. Clark joined J-M in 1934 as an architectural representative in the Boston District. Prior to that time, he had been associated with construction and architectural concerns in the New England area. He has held a number of responsible positions in the J-M Building Products Division and was made Manager of the Construction Department in 1944. He is a director of the Acoustical Material Association and a member of Producers Council, Inc.

Earnest M. Fuller will succeed Mr. Clark as Manager of the Construction Department. He is a graduate of the University of Illinois with a B. S. degree in architecture. He joined J-M in 1930 as an acoustical engineer in the Chicago District office. He was made Assistant Manager of the Construction Departmen .

with headquarters in New York, in 1945. He is a member of the American Institute of Architects and the Princeton Club of New York.

Charles V. Miller has been appointed Assistant to the President of Johns-Manville Corporation.

Mr. Miller joined the Johns-Manville organization 22 years ago and his work thru those years has brought him in close contact with the problems of the company's sales, mining and manufacturing organizations.

Mr. Miller was first assigned to the order department in the Manville, N. J., plant; he was successively Secretary to the plant manager, Assistant to the production manager in the New York offices, and for the past 12 years served as Special Assistant to the Vice President for Production. Mr. Miller was born in Philadelphia; his education was in business administration.

Edwin R. Wilkinson, Rear Admiral, U. S. N., Ret., has been appointed Manager of the Marine Department of Johns-Manville. Mr. Wilkinson succeeds to the post left vacant by the recent retirement of Evan U. Rinehart.

Mr. Wilkinson joined J-M February 1949 as a Marine sales representative in Cleveland, Ohio, after a distinguished career of 28 years in the U. S. Navy. He retired from the Navy in 1948.

CAREY PURCHASES ASBESTOS CO. OF TEXAS PLANT

The Philip Carey Manufacturing Co. has acquired the land, buildings and equipment of The Asbestos Company of Texas, Houston, Texas, manufacturers of asbestos-cement siding and roofing shingles.

Carey has for a long time been anticipating building a plant in Houston to serve the rapidly expanding Texas and other Southern markets. When the Houston plant of The Asbestos Company of Texas became available, it was decided to purchase this plant rather than build.

The Asbestos Company of Texas has been producing high quality asbestos-cement siding and roofing shingles, both white and in colored blends, since early in 1947.

UNION ASBESTOS & RUBBER CO.

Annual Report

The annual report of Union Asbestos & Rubber Co. shows earnings for 1950 equaled 68c per share on the 475,176 shares outstanding, which compares with $1.21 for the year 1949. Following are the figures:

	1950	1949
Net Sales	$8,089,712	$8,790,115
Net Income before Federal Taxes	541,842	974,648
Federal Income Taxes	216,000	375,000
Net Income after Federal Taxes	325,842	599,648

THE ASBESTOS MINING INDUSTRY — 1949

An 8 page pamphlet under the above title, has been issued by Industry and Merchandising Division of the Dominion Bureau of Statistics. It contains various statistical tables and can be obtained at a price of 25c.

NEW RESEARCH BUILDING
Added to J-M's Research Center

A Certificate of Necessity permitting the construction of a new building in J-M's Research Center at Manville, has been issued by the National Security Resources Board in order to help speed expansion of needed research activities for defense.

The new structure will contain laboratory and pilot plant areas; important defense work which will be expanded and accelerated with the completion of the new building, includes jet aircraft blanket insulations and high temperature gaskets and seals, filters for radioactive dusts, improved fireproof clothing, heavy duty friction materials for large aircraft and combat vehicles.

P. H. HAGEN JOINS RAYBESTOS—Manhattan

P. H. Hagen has joined the West Coast Sales Division of Raybestos-Manhattan to handle the sale of Manhattan Mechanical rubber products and R/M packings in the Pacific Northwest with headquarters at 2221-4th Ave., South, Seattle. He will be attached to the West Coast Sales Division, which has its principal office at 131 Mission Street, San Francisco, in charge of Littleton C. Barkley, Pacific Coast Sales Manager.

PABCO PROMOTES JAMES E. BOOTH

James E. Booth has been appointed Assistant District Manager of the Central District Building Materials Division of Pabco Products, Inc.

Mr. Booth joined Pabco in 1937 as a consumer salesman for Pabco's roofing and siding products, and more recently has been general lines salesman for building materials in the Oakland East Bay area.

AMERICAN BRAKE SHOE CO.
Annual Report

Sales of American Brake Shoe Co. totaled $106,578,958 during 1950. Shipments in 1950 were 16% higher than the 1949 total of $91,734,580. Unfilled orders at December 31, 1950 had reached $42,000,000, the highest ever recorded and had further increased to a new high on January 31, 1951, when they amounted to $50,700,000.

Brake Shoe's 1950 earnings after taxes were $5,939,289, the highest reported by the company. After preferred dividends this was equal to $5.17 per common share.

Cash dividends were $4.00 on the preferred stock and $3.00 on the common. In addition a non-taxable 10% stock dividend to common stockholders was declared.

FRENCH MOROCCO

According to U. S. Mineral Trade Notes for December 1950, 402 metric tons (443 short tons) were produced in French Morocco in 1949, compared with 399 metric tons (440 short tons) in 1948.

E. J. O'LEARY MADE VICE PRESIDENT
The Ruberoid Co.

E. J. O'Leary, formerly general sales manager of The Ruberoid Co. has been elected Vice President of the Company, in charge of sales.

THE PHILIP CAREY MFG. CO.

Annual Report

The Philip Carey Mfg. Co. reports net profits for 1950 of $3,710,142 compared with $2,556,306 for 1949, representing earnings per share of $4.52 and $3.08 respectively.

Consolidated net sales for 1950 were $50,734,636 compared with $39,902,929 for 1949.

Detailed figures are given below:

Net Sales	$50,734,636
Cost of Goods Sold	37,856,781
Gross Profit	12,877,855
Selling, Administrative and Research Expenses	5,042,742
Profit from Operations	7,835,113
Other Income Credits	137,654
Gross Income	7,972,767
Income Charges	520,625
Net Income before Taxes	7,452,142
Provision for Taxes	3,742,000
Net Income for Year	3,710,142

(See April 1950 "ASBESTOS", page 46, for 1949 report).

Dividends in 1950 amounted to $5.00 per share on Preferred Stock and $1.60 per share on the Common Stock.

RAYBESTOS-MANHATTAN, INC.

Annual Report

Annual report of Raybestos-Manhattan, Inc., for 1950 shows net income of $4,868,769, or $7.75 per share. For 1949 net income was $2,047,360 or $3.26 per share. The year 1950 was Raybestos-Manhattan's most successful year, showing peak sales and highest earnings.

Net sales in 1950 were $65,444,666 compared with $48,770,486 in 1949.

Detailed figures for 1950 follow. Comparable figures for 1949 are given on page 44 of our April 1950 number.

Net Sales	$65,444,666
Manufacturing Cost of Sales	46,165,420
Gross Profit	19,279,246
Selling, Administrative and General Expenses	9,235,678
Profit from Operations	10,043,568
Other Income, Discount, Interest, Dividends, etc.	500,201
Total Income before Taxes	10,543,769
Provision for Taxes	5,675,000
Net Income Transferred to Surplus	4,868,769
Surplus as of December 31, 1950	$17,464,222

J. T. HAWKINS, GENERAL FREIGHT AND PASSENGER AGENT QUEBEC CENTRAL RAILWAY, RETIRES

J. T. Hawkins, General Freight and Passenger Agent, Quebec Central Railway Company retired on March 31st after more than 50 years of service. Mr. Hawkins has subscribed to "ASBESTOS" since July 1928.

PHILIP CAREY'S OFFICERS FOR 1951

The annual stockholders' meeting of the Philip Carey Mf. Company was held on March 26th.

All the directors were re-elected for the one year term they were: H. R. Barrett, L. W. Clarke, H. E. Coombe, J. W. Humphrey, R. S. King, C. C. Merrifield, C. N. Pooler, George A. Rentschler, J. J. Rowe.

The following members of the board comprise the executive committee: George A. Rentschler, Chairman; H. E. Coombe, J. W. Humphrey, Robert S. King, J. J. Rowe.

All officers were also re-elected, as follows: Robert S. King, Chairman of the Board; J. W. Humphrey, President; H. R. Barrett, Vice-President-Controller; L. W. Clarke, Vice President—Sales; C. B. Pooler, Vice President—Manufacturing; W. L. Stevens, Vice President; S. E. Breuleux, Treasurer and Assistant Secretary; E. J. Fasold, Secretary.

MARINE MAGNESIUM PRODUCTS CORP. MERGED WITH MERCK & CO.

Marine Magnesium Products Corporation on March 1, 195 was merged with Merck & Co., Inc. The business will be conducted under the name of Marine Magnesium Products Division of Merck & Co., Inc., R. E. Clarke is a Director. There will be no change in personnel or policy.

HAROLD HOLDERITH ELECTED TREASURER OF DRYCOR FELT COMPANY

The Drycor Felt Company, Staffordville, Conn., has announced the election of Harold Holderith as Treasurer of the Company.

Mr. Holderith came to Drycor in 1941 from the Monroe Calculating Company and became Assistant Treasurer in 1945.

M. I. M. A. ISSUES Model Specification

To assist architects, engineers and others who have occasion to draw up specifications for insulation jobs, a model specification covering 85% Magnesia insulation of heating systems in commercial and institutional buildings and multiple dwellings has been published by The Magnesia Insulation Manufacturers Association.

Among the types of equipment covered by the specification are: heating supply and return piping, domestic hot water supply and return piping, hot water heaters and storage tanks, boiler steam drums, boiler flues and breechings, boiler stacks within buildings, feedwater heaters, kitchen exhaust ducts, and steam turbines and pumps. Requirements for related materials used in applying 85% Magnesia, such as various types of cements, jacketing, wiring, weatherproofing, etc., are included. Schedules of insulation thicknesses for piping and equipment are listed for temperature ranges up to 600°F.

Copies are available on request to the Association, 1317 F Street, N. W., Washington 4, D. C.

MILL CAPACITY

The latest issue of Mineral Trade Notes (February 1951, Volume 32, No. 2) contains a very interesting article on Asbestos in Canada. It was written by Consul General Cecil M. P. Cross of Montreal, Canada. U. S. Mineral Trade Notes is published by the U. S. Bureau of Mines of the Department of the Interior.

While space does not permit the reprinting of the entire article, a table giving the number of mills and their daily rock tonnage, may be interesting and is published in "ASBESTOS" "for the record."

MILL CAPACITY

	Daily Rock Tonnage
Thetford Mines	
Beaver and King Mills (Asbestos Corporation)	6,000
Johnson Asbestos Co.	2,000
Bell Asbestos Co. (Turner & Newall)	1,500
Flintkote Mines	1,200
Coleraine District	
Vimy Ridge (Asbestos Corp.)	2,800
British Canadian (Asbestos Corp.)	4,000
Johnson Asbestos Co.	1,200
Danville District	
Johns-Manville Co.	12,500
Nicolet Asbestos Co.	1,500
East Broughton District	
Quebec Asbestos (Carey)	1,500
	34,200

PATENTS

This information obtained from the Official Patent Gazette, published weekly by the U. S. Patent Office, Washington, D. C.

Copies of patents can be obtained by sending 25c (in coin) to The Commissioner of Patents, Washington, D. C., giving the patent number, date it was issued, name of patentee and name of invention.

Method of Modifying Drying Oils and Friction Material containing Drying Oil. No. 2,539,631. Granted on January 30, 1951 to Joseph N. Kuzmick, Passaic, N. J., Assignor to Raybestos-Manhattan, Inc., Passiac, N. J. Application February 11, 1948. Serial No. 7709.

Apparatus for Making Means to attach Friction Materials No. 2,542,064. Granted on February 20, 1951 to Sydney G. Tilden, Stewart Manor, N. Y. Assignor to Permafuse Corporation. Application May 10, 1946. Serial No. 668,662. Divided and this application November 13, 1947. Serial No. 783,703.

BOOK LIST

The Asbestos Factbook, 16 pages. Information in compact form on origin, facts, locations, uses, analyses, qualities, 10c per copy.

Asbestos Mining Methods. By C. V. Smith. (Reprint) 16 pages. 25c per copy.

Milling Asbestos. By J. C. Kelleher. (Reprint) 16 pages. Companion article to Asbestos Mining Methods. Both should be in every Asbestos Library, 25c per copy.

Recovery of Raw Asbestos. By Roland Starkey. (Reprint) 6 pages. Supplement to Milling Asbestos. 25 per copy.

Canadian Chrysotile Asbestos Classification. Including latest Quebec Testing Method. January 1, 1949 Edition. 4 pages. 25c per copy.

Processing Asbestos Fibres. 8 pages. (Reprint) 25c per copy

Tests for Cotton Content. 4 pages (Reprint) Describing several methods of testing asbestos textile for cotton content. 10c per copy.

Chart—Dollars Cost of Uninsulated Pipe. (Reprint) 20c each

Brake Linings of Various Types, By R. T. Halstead. Reprint (32 pages) from August, September and October 1949 "ASBESTOS". Price 25c per copy.

Asbestos—The Silk of the Mineral Kingdom, by Oliver Bowles. 40 pages about asbestos, from mine to finished products, in plain language, illustrated, 25c a copy.

Twelve Estimating Tables, with Chart. Convenient in figuring flange fittings and other areas. $1.00 per set.

Manual of Unit Prices. For figuring pipe covering and blocks. 75c per single copy postpaid. Discount in quantities of 6 or more, postage billed.

Order any of the above from "ASBESTOS", 808 Western Saving Fund Bldg., Philadelphia 7, Pa. Postage stamps acceptable for amounts less than $1.00.

AFTERTHOUGHTS

¶ I. W. Cotton, President of I. W. Cotton Company, Inc., of Indianapolis, Ind., has been made chairman of the Committee on Research of the American Society of Heating and Ventilating Engineers for 1951. The Committee plans and supervises the society's research program at its laboratory in Cleveland and at cooperating colleges and universities where the ASHVE has made a grant of funds to established fellowships.

¶In the Wall Street Journal for March 23rd, under Washington Checklist, the following appears: "Raw Asbestos may soon have to be allocated, N. P. A. told manufacturers of asbestos products. Meanwhile, NPA advised the industry to use glass fibre as a substitute wherever possible." No comment!

¶ World-wide authorities will convene in the Hotel Statler, Detroit, Michigan, from May 7 thru 11, 1951, for the 55th Annual Meeting of the National Fire Protection Association. Prevention and protection from fire will be its sole aim. This Association, whose home office is in Boston, Mass., has over 13,000 members, scattered thru all 48 states and over fifty countries.

¶May 19th is Armed Forces Day—date has been fixed by the Department of Defense. Don't forget to put your flag out.

¶Be definite. An inquiry reached us recently which was so indefinite that it was impossible to tell just what the writer wanted. He asked for the price on a certain commodity, but did not state sizes, or any other data which would enable us to answer him intelligently.

¶ One inquirer wrote us recently that "he certainly appreciated finding so much information (on asbestos) in one spot". He expressed in a brief phrase the whole purpose of "ASBESTOS"—we try to collect all the information on asbestos and asbestos products possible *in one spot*. It is always available to anyone interested in the subject.

¶ There's no such thing as an idle rumor—they're always busy.

CURRENT RANGE OF PRICE

As of April 10, 1951

	Per Ton (2000 lbs.) f.o.b. Mine
Canada—	
Group No. 1 (Crude No. 1)	$1,100.00 to $1,500.00
Group No. 2 Crude No. 2; Crude Run-of-Mine and Sundry	485.00 to 900.00
Group No. 3 (Spinning Fibre)	275.00 to 450.00
Group No. 4 (Shingle Fibre)	135.00 to 151.00
Group No. 5 (Paper Fibre)	95.00 to 119.00
Group No. 6 (Waste, Stucco or Plaster)	70.00
Group No. 7 (Refuse or Shorts)	32.00 to 63.00
Vermont—	
	Per Ton of 2000 lbs. f.o.b. Hyde Park or Morrisville, Vt.
Group No. 4 (Shingle Fibre)	$122.65 to $148.50
Group No. 5 (Paper Fibre)	86.90 to 106.15
Group No. 6 (Waste, Stucco or Plaster)	64.00
Group No. 7 (Refuse or Shorts)	31.20 to 57.50

ASBESTOS STOCK QUOTATIONS

(These figures are compiled from the Commercial and Financial Chronicle. No guarantee as to their Correctness).

		March 1951		
	Par	Low	High	Last
Amer. Br. Shoe (Com.)	np	39½	41⅜	40
Amer. Br. Shoe (Pfd.)	100	107	112	107
Armst. Ck. (Com.)	np	53	56⅞	56
Armst. Ck. (Pfd.)	np	96	102¼	97
Armst. Ck. (Conv. Pfd.)	np	112	116¾	116¾
Asb. Corp. (Com.)	np	46	50	48
Asb. Mfg. Co. (Com.)	1	1⅜	1⅜	1⅜
Carey (Com.)	10	18¼	19¼	18½
Celotex (Com.)	np	17¼	18⅜	17½
Celotex (Pfd.)	20	16¾	17⅜	17¼
Certainteed (Com.)	1	16⅛	17¾	16¾
Flintkote (Com.)	np	29⅝	32⅝	30¾
Flintkote (Pfd.)	np	101	107	103¾
Johns-Manville (Com.)	np	53⅞	58⅞	57
Pabco Products, Inc. (Com.)	np	19¼	21	19½
Pabco Products, Inc. (Pfd.)	100	100	102½	102½
Ray-Man (Com.)	np	35	40½	35¼
Ruberoid (Com.)	np	57	60	58
Thermoid (Com.)	1	8¼	9¼	9¼
Thermoid (Pfd.)	50	40	43¼	40
Union Asb. & Rub. (Com.)	5	12½	14¼	12½
United Asb. (Com.)	1	94c	$1.08	$1.01
U. S. Gypsum (Com.)	20	112½	119½	117¾
U. S. Gypsum (Pfd.)	100	180	185	180
U. S. Rubber (Com.)	10	53⅜	58	53¾
U. S. Rubber (Pfd.)	100	138	141¾	138½

SOUTHERN ASBESTO

TAPE

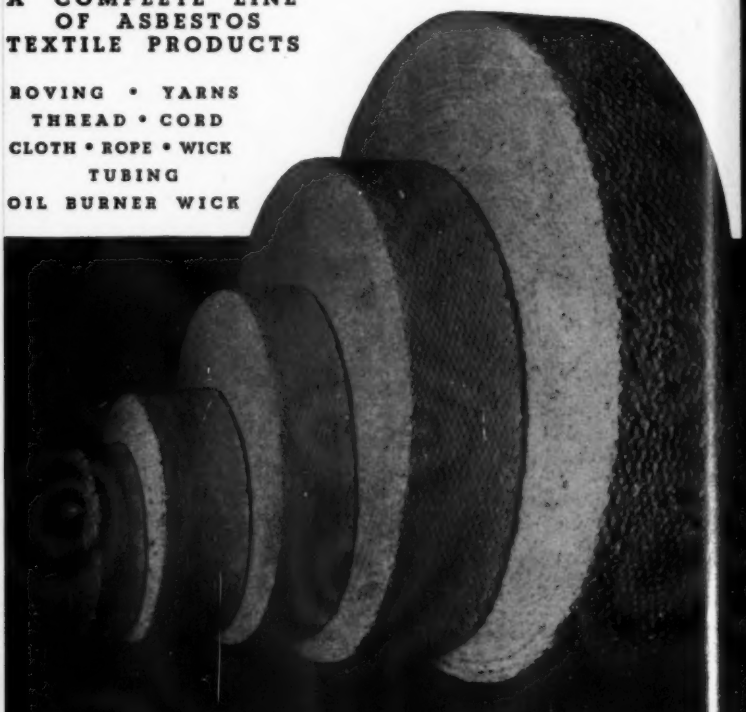
Southern Listing Tapes are flame proof. Flexible, uniform weave wi and thickness assures superior service and insulation. High tensile s ren insures efficient application.

Two types—Ferrous for general insulating purposes and Non-I err where a material with very low iron content is essential. Write f r il trated Folder No. 1008.

Over 25 years of specialized experience in Asbestos Textiles and Textile Products is at your service at Southern Asbestos. Our technical and production facilities are available to help you improve old and develop new uses for asbestos fibre and textiles.

A COMPLETE LINE OF ASBESTOS TEXTILE PRODUCTS

ROVING • YARNS
THREAD • CORD
CLOTH • ROPE • WICK
TUBING
OIL BURNER WICK



SOUTHERN ASBESTOS COMPANY CHARLOTTE 1 N